CLAIMS:

Cancel the claims of record (1-20) and substitute new claims 21-40 as follows:

21. An electrically programmable three-dimensional integrated memory (EP-3DiM), comprising:

    a substrate circuit, said substrate circuit further comprising a substrate integrated circuit and an address-decoder, said substrate integrated circuit comprising an embedded RWM and/or an embedded processor;

    at least an electrically programmable three-dimensional memory (EP-3DM) level, said EP-3DM level being stacked on top of said substrate circuit and connected with said substrate circuit through a plurality of inter-level connecting vias, said address-decoder decoding address for at least a portion of said EP-3DM level.

22. The EP-3DiM according to claim 21, wherein at least a portion of said EP-3DM level stores software code.

23. The EP-3DiM according to claim 21, wherein said embedded RWM stores data.

24. The EP-3DiM according to claim 21, wherein

    said embedded RWM comprises an embedded RAM, at least a portion of the input/output of said embedded RAM being eventually connected with at least a portion of the input/output of said address-decoder of said EP-3DM level.

25. The EP-3DiM according to claim 24, wherein said embedded RAM stores a copy of software code from said EP-3DM level.

26. The EP-3DiM according to claim 25, wherein said embedded RAM further comprises:

    a first sector, said first sector storing said copy of software code; and

    a second sector, said second sector storing data.

27. The EP-3DiM according to claim 21, wherein

    said embedded RWM comprises an embedded ROM, whereby said embedded ROM stores correctional data for said EP-3DM level; and

said substrate circuit further comprises means for selecting data from said EP-3DM level or from said embedded ROM.

28. The EP-3DiM according to claim 21, wherein

said embedded RWM comprises an embedded ROM, whereby said embedded ROM stores upgrade codes for said EP-3DM level; and

said substrate circuit further comprises means for selecting data from said EP-3DM level or from said embedded ROM.

29. The EP-3DiM according to claim 21, wherein

at least a portion of said embedded RWM and at least a portion of said EP-3DM form a unified memory space; and

said substrate circuit further comprises a memory-space address-decoder, at least an output of said memory-space address-decoder being eventually connected with said embedded RWM and at least another output of said memory-space address-decoder being eventually connected with said EP-3DM.

30. The EP-3DiM according to claim 21, wherein at least a portion of said EP-3DM level stores multimedia contents.

31. The EP-3DiM according to claim 21, wherein said multimedia contents are selected from a group of multimedia contents consisting of digital text, digital images, digital audio, digital video.

32. The EP-3DiM according to claim 21, wherein said processor is an embedded media-player.

33. The EP-3DiM according to claim 21, wherein

said embedded processor is selected from a group consisting of D/A converter, decoder and decryption engine.

34. The EP-3DiM according to claim 21, wherein at least one multimedia output of said EP-3DiM is in an analog form.

35. The EP-3DiM according to claim 21, further comprises a key storage, whereby said key is used to decrypt at least a portion of the contents stored in said EP-3DM level.

36. An electrically programmable player-on-a-chip (EP-PonC), comprising:

a substrate circuit, said substrate circuit further comprising an embedded media-player;

at least an electrically programmable three-dimensional memory (EP-3DM) level, said EP-3DM level being stacked on top of said substrate circuit and connected with said substrate circuit through a plurality of inter-level connecting vias, at least a portion of said EP-3DM level storing multimedia contents;

whereby said embedded media-player can process said multimedia contents stored in said EP-3DM level.

37. The EP-PonC according to claim 36, wherein said multimedia contents are selected from a group of multimedia contents consisting of digital text, digital images, digital audio, digital video.

38. The EP-PonC according to claim 36, wherein

said embedded media-player comprises at least a processing block selected from D/A converter, decoder and decryption engine.

39. The EP-PonC according to claim 36, wherein at least one multimedia output of said EP-PonC is in an analog form.

40. An electrically programmable computer-on-a-chip (EP-ConC), comprising:

a substrate circuit, said substrate circuit further comprising an embedded processor and an embedded RAM;

at least an electrically programmable three-dimensional memory (EP-3DM) level, said EP-3DM level being stacked on top of said substrate circuit and connected with said substrate circuit through a plurality of inter-level connecting vias, at least a portion of said EP-3DM level storing software code;

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whereby said embedded RAM can store at least a portion of said software code from said EP-3DM level, and said embedded processor can process data and code stored in said embedded RAM.